

## LISTING OF CLAIMS

1. (Currently Amended) An isolated nucleic acid probe that consists essentially of 10 to 50 consecutive nucleotides for species-specific identification of *Fusarium*, wherein the probe selectively hybridizes under stringent conditions to the internal transcribed spacer 2 nucleic acid sequence of *Fusarium solani* (SEQ ID NO: 6), or *Fusarium moniliforme* (SEQ ID NO: 7), but does not selectively hybridize under stringent conditions to the internal transcribed spacer 2 nucleic acid sequence of *Aspergillus flavus* (SEQ ID NO: 1), *Aspergillus fumigatus* (SEQ ID NO: 2), *Aspergillus niger* (SEQ ID NO: 3), *Aspergillus terreus* (SEQ ID NO: 4), [[or]] *Aspergillus nidulans* (SEQ ID NO: 5), *Mucor rouxii* (SEQ ID NO: 8), *Mucor racemosus* (SEQ ID NO: 9), *Mucor plumbeus* (SEQ ID NO: 10), *Mucor indicus* (SEQ ID NO: 11), *Mucor circinilloides f. circinelloides* (SEQ ID NO: 12), *Rhizopus oryzae* (~~SEQ ID NO: 13 and NO: 14~~ SEQ ID NOs: 13 and 14), *Rhizopus microsporus* (~~SEQ ID NO: 15 and 16~~ SEQ ID NOs: 15 and 16), *Rhizopus circinans* (~~SEQ ID NO: 17 and 18~~ SEQ ID NOs: 17 and 18), *Rhizopus stolonifer* (SEQ ID NO: 19), *Rhizomucor pusillus* (SEQ ID NO: 20), *Absidia corymbifera* (~~SEQ ID NO: 21 and 22~~ SEQ ID NOs: 21 and 22), *Cunninghamella elegans* (SEQ ID NO: 23), *Pseudallescheria boydii* (teleomorph of *Scedosporium apiospermum*) (~~SEQ ID NO: 24, 25, 26, and 27~~ SEQ ID NOs: 24-27), *Penicillium notatum* (SEQ ID NO: 28), or *Sporothrix schenckii* (SEQ ID NO: 29).

2-6. (Canceled)

7. (Previously presented) The isolated nucleic acid probe of Claim 1, wherein the probe selectively hybridizes with a *Fusarium solani* nucleic acid of SEQ ID NO: 6, or a complementary sequence thereof.

8. (Currently Amended) The isolated nucleic acid probe of Claim 1, wherein the probe selectively hybridizes with a *Fusarium moniliforme* nucleic acid of SEQ ID NO: 7, or a complementary sequence thereof.

9-23. (Canceled)

24. (Currently Amended) A method of detecting a species of *Fusarium solani* (SEQ ID NO: 6) or *Fusarium moniliforme* (SEQ ID NO: 7) in a sample, comprising

contacting the sample with a nucleic acid probe consisting essentially of 10 to 50 consecutive nucleotides that selectively hybridizes with a nucleic acid having a sequence as set forth as ~~SEQ ID NO: 5~~ SEQ ID NO: 6 or ~~SEQ ID NO: 6~~ SEQ ID NO: 7, or a complementary sequence thereof;

wherein hybridization of the nucleic acid probe with the sample indicates the detection of the *Fusarium* species in the sample.

25-29. (Canceled)

30. (Previously presented) The method of Claim 24, wherein the probe selectively hybridizes with a *Fusarium solani* nucleic acid of SEQ ID NO: 6, or a complementary sequence thereof.

31. (Currently Amended) The method of Claim 24, wherein the probe selectively hybridizes with a *Fusarium moniliforme* nucleic acid of SEQ ID NO: 7, or a complementary sequence thereof.

32-46. (Canceled)

47. (Previously presented) An isolated nucleic acid probe for identifying a member of a *Fusarium* genus, wherein the probe consists essentially of a nucleotide sequence as set forth as SEQ ID NO: 59, or a complementary sequence thereof, respectively.

48. (Canceled)

49. (Previously presented) A method for detecting a member of a *Fusarium* genus in a sample, comprising

combining the sample with a nucleic acid probe that selectively hybridizes with a portion of the nucleic acid of SEQ ID NO: 59, or a complementary sequence thereof, respectively,

wherein hybridization of the probe with the sample indicates the presence of *Fusarium* in the sample.

50. (Canceled)

51. (Currently Amended) An isolated nucleic acid probe that hybridizes to an internal transcribed spacer 2 region of a *Fusarium* species, wherein the probe consists essentially of a nucleic acid sequence having a sequence as set forth as SEQ ID NO: 49, SEQ ID NO: 50, or SEQ ID NO: 51, and wherein the probe does not hybridize to ~~but does not hybridize to~~ the internal transcribed spacer 2 nucleic acid sequence of *Aspergillus flavus* (SEQ ID NO: 1), *Aspergillus fumigatus* (SEQ ID NO: 2), *Aspergillus niger* (SEQ ID NO: 3), *Aspergillus terreus* (SEQ ID NO: 4), ~~[[or]]~~ *Aspergillus nidulans* (SEQ ID NO: 5), *Mucor rouxii* (SEQ ID NO: 8), *Mucor racemosus* (SEQ ID NO: 9), *Mucor plumbeus* (SEQ ID NO: 10), *Mucor indicus* (SEQ ID NO: 11), *Mucor circinilloides f. circinelloides* (SEQ ID NO: 12), *Rhizopus oryzae* (~~SEQ ID NO: 13 and NO: 14~~ SEQ ID NOs: 13 and 14), *Rhizopus microsporus* (~~SEQ ID NO: 15 and 16~~ SEQ ID NOs: 15 and 16), *Rhizopus circinans* (~~SEQ ID NO: 17 and 18~~ SEQ ID NOs: 17 and 18), *Rhizopus stolonifer* (SEQ ID NO: 19), *Rhizomucor pusillus* (SEQ ID NO: 20), *Absidia corymbifera* (~~SEQ ID NO: 21 and 22~~ SEQ ID NOs: 21 and 22), *Cunninghamella elegans* (SEQ ID NO: 23), *Pseudallescheria boydii* (teleomorph of *Scedosporium apiospermum*) (~~SEQ ID NO: 24, 25, 26, and 27~~ SEQ ID NOs: 24-27), *Penicillium notatum* (SEQ ID NO: 28), or *Sporothrix schenckii* (SEQ ID NO: 29).

52. (Currently Amended) The isolated nucleic acid probe of ~~Claim 4~~ Claim 51, wherein the probe consists essentially of a nucleic acid sequence having a sequence as set forth as SEQ ID NO: 49.

53. (Currently Amended) The isolated nucleic acid probe of ~~Claim 4~~ Claim 51, wherein the probe consists essentially of a nucleic acid sequence having a sequence as set forth as SEQ ID NO: 50.

54. (Currently Amended) The isolated nucleic acid probe of ~~Claim 4~~ Claim 51, wherein the probe consists essentially of a nucleic acid sequence having a sequence as set forth as SEQ ID NO: 51.

55. (Previously presented) The method of Claim 24, wherein the probe consists essentially of a nucleic acid sequence having a sequence as set forth as SEQ ID NO: 49.

56. (Previously presented) The method of Claim 24, wherein the probe consists essentially of a nucleic acid sequence having a sequence as set forth as SEQ ID NO: 50.

57. (Previously presented) The method of Claim 24, wherein the probe consists essentially of a nucleic acid sequence having a sequence as set forth as SEQ ID NO: 51.

58. (Currently Amended) An isolated nucleic acid sequence comprising a sequence as set forth as ~~SEQ ID NO:5~~ SEQ ID NO: 6 or ~~SEQ ID NO:6~~ SEQ ID NO: 7.

59. (Currently Amended) An isolated nucleic acid sequence consisting essentially of a sequence as set forth as ~~SEQ ID NO:5~~ SEQ ID NO: 6 or ~~SEQ ID NO:6~~ SEQ ID NO: 7.